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GREEN CLASSROOM PROFESSIONAL GCP CERTIFICATE REFRESHER

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
1

Introduction and Course Outline

KRISHNAJI PAWAR - CEO & FOUNDER

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GREEN CLASSROOM PROFESSIONAL GCP CERTIFICATE REFRESHER

The Green Classroom Professional (GCP) Certificate Refresher is designed for educators and sustainability leaders to enhance their knowledge and skills in creating environmentally sustainable classrooms. The program focuses on integrating sustainable practices into educational environments, fostering a culture of environmental stewardship among students and staff.



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.



Learning Objectives

- **Introduction**
- **Getting Started with Green School Buildings**
- **What Does a Successful Green School Look Like?**
- **The DNA of Whole School Sustainability**
- **Teaching projects and problem-based learning**
- **Green School Management, Aesthetics, and Efficiency**
- **Design Principles for Whole School Sustainability**
- **Policy, Safety, and Diversity, Equity, and Inclusion in Green Schools**
- **Green Building Basics and Cost Benefits**
- **Healthy Ecosystems for Learning**



INTRODUCTION

The GCP Certificate program equips pre-K-12 educators and school staff with knowledge and skills to create and maintain healthy, resource-efficient, and environmentally sustainable learning environments.

Key objectives include:

- **Identification of Environmental Impacts:** Understanding how construction materials, energy use, and classroom management practices influence the ecological footprint of a learning space.
- **Integration of Health and Sustainability:** Exploring how air quality, lighting, and acoustics affect learning outcomes and how sustainable practices can promote a healthier educational experience.
- **Resource Efficiency:** Gaining insights into resource management, focusing on energy conservation, water efficiency, waste reduction, and sustainable procurement practices.
- **Implementation of Sustainable Practices:** Learning how to create action plans, set measurable goals, and engage the school community in sustainability efforts.
- **Advocacy and Leadership:** Equipping educators with the skills to advocate for sustainable practices within their schools and communities.

Learning Objectives

- Green school buildings are dynamic learning environments.
- Operations and Maintenance for Whole School Sustainability
- Meaningful, purposeful, and engaging learning
- Sustainable Grounds & Transportation
- Indoor Environment—Air Quality
- Smart Cleaning & Integrative Pest Management
- Indoor Environment—Acoustics
- Water Efficiency and Quality
- Energy Efficiency—Lighting
- Plug Loads & HVAC Systems
- Materials and Resources
- Innovation & Conclusion
- Summary and Resources / GCP Quiz

CURRICULUM COMPONENTS

- Environmental Science Foundations: Introduction to key concepts in environmental science, including ecosystems, biodiversity, climate change, and the principles of sustainability.
- Assessment Tools and Techniques: Learning to employ various assessment tools to evaluate their classrooms and school environments.
- Curriculum Development for Sustainability: Encouraging integration of sustainability into teaching practices.
- Community Engagement and Partnerships: Learning how to build partnerships with community organizations, businesses, and local government to enhance sustainability initiatives.

CURRICULUM AND INSTRUCTIONAL STRATEGIES



- The GCP Certificate program emphasizes curriculum development and instructional strategies that promote sustainability.
- Participants learn to design interdisciplinary lessons that incorporate sustainability themes across subjects.
- Project-Based Learning (PBL) is a key instructional strategy, allowing students to engage in hands-on, real-world projects that address sustainability challenges

ASSESSMENT AND EVALUATION

- The GCP program trains educators to develop evaluation methods that reflect students' understanding of sustainability concepts and their ability to apply them in practical contexts.
- Authentic Assessment is particularly relevant in this context, evaluating students based on real-world tasks and projects.



COMMUNITY AND GLOBAL CONNECTIONS



- The GCP Certificate emphasizes the importance of community engagement and global perspectives in sustainability education.
- Educators are encouraged to connect their classrooms with local and global sustainability initiatives.
- The program fosters a sense of global citizenship in students, illustrating that their actions can have far-reaching impacts.

CHALLENGES AND OPPORTUNITIES IN CREATING SUSTAINABLE LEARNING SPACES



- Financial: Initial investment for sustainable building practices can be a barrier. Financial models like public-private partnerships or grant programs can alleviate these burdens.
- Operational: Maintaining an environmentally healthy learning space requires ongoing commitment and expertise. Schools must adopt sustainable maintenance practices like green cleaning protocols and waste reduction strategies.
- Educational: Integrating sustainability into the curriculum can be complex and requires training educators and developing interdisciplinary approaches.

SUSTAINABILITY CONCEPTS

- Balancing economic, environmental, and social considerations to create a resilient society.
- Emphasizes the triple bottom line: economic prosperity, environmental stewardship, and social equity.
- Lifecycle thinking considers the environmental and social impacts of a product or service throughout its lifecycle.
- Both concepts aim to promote responsible and efficient use of resources for a more sustainable future.



ENERGY EFFICIENCY AND SUSTAINABILITY CONCEPTS

Energy Efficiency in Sustainability

- Involves optimizing energy use to minimize waste and environmental impact.
- Achieves desired outputs with minimal energy input through energy-efficient technologies, practices, and behaviors.
- Energy conservation involves reducing energy consumption by using less energy to achieve the same output.
- Energy management involves monitoring and optimizing energy use to improve efficiency.
- Energy efficiency reduces greenhouse gas emissions, mitigates climate change, and conserves natural resources.



ENVIRONMENTAL IMPACT OVERVIEW

- Environmental impact refers to the effects of human activities on the environment, including ecosystems, natural resources, and ecological balance.
- Key factors include emissions, solid and fluid waste disposal, deforestation, habitat destruction, and pollution.
- Emissions, including carbon dioxide, nitrogen oxides, sulfur dioxide, and particulate matter, contribute to climate change by trapping heat in the atmosphere.
- Solid and fluid waste disposal, including plastics, paper, food scraps, and other materials, can lead to pollution and harm to wildlife.
- Fluid waste, such as wastewater from industrial processes or sewage treatment plants, can contain harmful substances that can contaminate water sources and harm ecosystems.
- Factory production, for example, emits pollutants into the air, generates solid waste, and discharges wastewater containing chemicals, affecting aquatic life.
- Understanding these factors can help implement sustainable practices and reduce ecological footprint, ensuring a healthy and thriving planet for future generations.



CORE GREEN BUILDING CONCEPTS AND THE LEED FRAMEWORK:

- Sustainable Site Development: Selecting building sites that minimize environmental impact.
- Water Efficiency: Implementing systems that reduce water consumption.
- Energy Efficiency: Using energy-efficient technologies.
- Materials and Resources: Selecting sustainable materials that are recycled, sourced locally, or sustainably harvested.
- LEED Framework: Leveraging the framework to benchmark sustainability efforts and communicate achievements effectively to stakeholders.



ADOPTING, ADVOCATING, AND IMPLEMENTING GREEN PRACTICES:

- Curriculum Integration: Integrating sustainability into the educational experience.
- Community Engagement: Schools can serve as models of sustainability within their communities.
- Behavioral Change: Encouraging sustainable behaviors among students and staff through campaigns and incentives.



EFFECTIVE COMMUNICATION ABOUT ENVIRONMENTAL CHALLENGES AND GREEN PRACTICES:

- Participants should be equipped with appropriate terminology and facts to facilitate constructive dialogue. Key terms include sustainability, carbon footprint, and biophilia.
- Participants should also share facts and statistics that highlight the importance of sustainability in education.





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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.

DEFINITION AND BENEFITS OF SUSTAINABLE BUILDING DESIGN



- Focuses on creating energy-efficient, environmentally friendly, and sustainable structures.
- Considers factors like building materials, insulation, ventilation, lighting, and layout to optimize performance and minimize environmental impact.
- Energy efficiency is achieved through the use of energy-efficient materials like double-pane windows, LED lighting, and high-efficiency HVAC systems.
- Indoor air quality is improved through proper ventilation systems and use of low-VOC materials.
- Sustainable building materials like recycled steel, bamboo flooring, and low-impact paints contribute to a more sustainable building industry.
- The goal is to create buildings that reduce environmental impact and provide a healthier, more comfortable space for occupants.

SUSTAINABLE BUILDING DESIGN

High performance OR Sustainable building design is a process of integrated approach using various parameters surrounding building design for optimised design excellence. The entire process is a holistic approach to designing high-performing buildings that are -

- Sustainable environmentally and economically
- Energy efficient
- Prioritising occupant's well-being through design

These three points essentially summarise all the attributes a high performance building should have. And naturally, it falls onto the architect to ensure all aspects are fulfilled.





Sustainability: Sustainability means using resources in a way that meets our needs without harming future generations. It focuses on balancing environmental health, social equity, and economic viability.

Environmental Stewardship: Environmental stewardship is the responsible management of natural resources to protect the environment and promote ecological health.

Social Equity: Social equity means fairness and justice in society, ensuring everyone has equal access to opportunities and resources.

Economic Viability: Economic viability refers to the ability of a project or practice to be financially sustainable while also being environmentally friendly.

Curriculum: A curriculum is a set of courses or lessons that outline what students will learn in a school or educational program.

Project-Based Learning (PBL): Project-Based Learning is a teaching method where students learn by working on real-world projects, encouraging hands-on experience and collaboration.

Assessment: Assessment is the process of evaluating students' understanding and skills, often through tests, projects, or presentations.



Authentic Assessment: Authentic assessment evaluates students based on real-life tasks and projects, showing their ability to apply what they've learned.

Community Engagement: Community engagement involves working with local groups and organizations to address issues and improve the community through collaboration.

Global Citizenship: Global citizenship means being aware of and responsible for global issues, understanding that our actions can impact people and the planet worldwide.

Sustainability: The ability to maintain or continue something over time, especially in ways that are good for the environment, economy, and society.

Carbon Footprint: The total amount of greenhouse gases that are emitted by an individual, organization, or product, usually measured in carbon dioxide equivalents.

Energy Efficiency: Using less energy to provide the same service or achieve the same outcome, which helps reduce energy costs and environmental impact.

Water Efficiency: Practices and technologies that reduce water use and waste, helping to conserve this important resource.



Sustainable Materials: Materials that are sourced in ways that do not harm the environment, such as recycled or locally sourced products.

Community Engagement: Involving and collaborating with local communities to promote sustainability and environmental awareness.

Green Practices: Actions and strategies that promote environmental health and sustainability, such as recycling and energy conservation.

Operational Challenges: Difficulties faced in maintaining sustainable practices within an organization, such as schools needing ongoing commitment and expertise.

Financial Challenges: Obstacles related to funding and costs that can hinder the implementation of sustainable practices in schools.

Educational Challenges: Difficulties in teaching and integrating sustainability into school programs and curricula.



Sustainable Development : Sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Report, 1987).

Environmental Sustainability : Environmental sustainability refers to the responsible interaction with the environment to avoid depletion or degradation of natural resources, ensuring long-term ecological balance.

Social Equity : Social equity in sustainable development refers to the fair and just distribution of resources, opportunities, and privileges within a society.

Economic viability : Economic viability refers to a project or initiative's ability to generate sufficient economic returns to sustain itself long-term.

Ecosystem Services **Definition:** Natural ecosystems provide humans with four main types of benefits: provisioning, regulating, cultural, and supporting services.



Cultural services: encompass recreational, aesthetic, and spiritual benefits.- Supporting services are the underlying processes that maintain ecosystem functions, such as nutrient cycling and soil formation.

Circular Economy : A circular economy is an economic system aimed at eliminating waste and the continual use of resources by creating closed-loop systems where waste is minimized, and materials are reused, recycled, or remanufactured.

Resilience: Resilience in sustainable development refers to the capacity of a system—be it ecological, social, or economic—to absorb disturbances and reorganize while undergoing change, thereby retaining essential functions and identity.

SUSTAINABLE BUILDING DESIGN: BENEFITS AND PRACTICAL IMPLICATIONS



- Integrates disciplines like architecture, engineering, urban planning, and environmental science.
- Aims to minimize environmental impact, promote resource efficiency, and enhance quality of life.
- Benefits include reducing ecological footprint, promoting economic advantages, improving health and well-being, and promoting social equity.
- Uses renewable resources and energy-efficient technologies to minimize waste and lower carbon emissions.
- Contributes to health and well-being by creating healthier indoor environments, maximizing natural light, and improving air quality.
- Designed to be resilient to climate change impacts, employing adaptive design strategies for durability and lifespan.
- Increased regulatory and market demand trends, including tax breaks, grants, and favorable zoning laws.
- The LEED certification system benefits buildings by increasing marketability and attractiveness to environmentally conscious tenants and buyers.



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THANK YOU

