Certificate Programme in Healthcare Facility Design and Layout

Sustainable Healthcare Design

Abrasives: refers to materials used for cleaning and polishing surfaces in healthcare facilities, reducing the risk of infection. Related terms include cleaning, disinfection, and sterilization. Abrasives are used to remove dirt, grime, and other substances from surfaces, and are an essential component of infection control in healthcare settings. For example, abrasives can be used to clean and polish floors, walls, and other surfaces in patient rooms, operating rooms, and other areas of healthcare facilities.

Accessibility: refers to the design of healthcare facilities to ensure that they are usable by people with disabilities. Related terms include universal design, inclusive design, and ADA compliance. Accessibility is an essential consideration in healthcare facility design, as it ensures that patients, visitors, and staff with disabilities can navigate and use the facility safely and easily. For example, accessibility features such as ramps, elevators, and wide doorways can be incorporated into healthcare facility design to ensure that people with mobility impairments can access and use the facility.

Acoustics: refers to the design of healthcare facilities to minimize noise and ensure that patients and staff can communicate effectively. Related terms include soundproofing, noise reduction, and audio technology. Acoustics is an important consideration in healthcare facility design, as excessive noise can be a source of stress and discomfort for patients and staff. For example, acoustics can be used to design quiet patient rooms, operating rooms, and other areas of healthcare facilities where noise needs to be controlled.

Air Quality: refers to the design of healthcare facilities to ensure that the air is clean and safe for patients and staff. Related terms include ventilation, filtration, and indoor air quality. Air quality is an essential consideration in healthcare facility design, as poor air quality can be a source of infection and other health problems. For example, air quality can be improved through the use of ventilation systems, air filters, and other technologies that remove pollutants and contaminants from the air.

As-built Drawings: refers to the final drawings of a healthcare facility that are created after construction is complete. Related terms include construction documents, blueprints, and facility management. As-built drawings are an essential component of healthcare facility management, as they provide a detailed and accurate record of the facility's design and construction. For example, as-built drawings can be used to identify the location of pipes, wires, and other systems in the facility, and to plan for future renovations and upgrades.

Bed Capacity: refers to the number of beds available in a healthcare facility for patient care. Related terms include patient flow, capacity planning, and bed management. Bed capacity is an essential consideration in healthcare facility design, as it determines the number of patients that can be treated and cared for in the facility. For example, bed capacity can be increased through the use of modular design and flexible patient rooms that can be easily converted to meet changing patient needs.

Biomedical Waste: refers to the hazardous waste generated by healthcare facilities, including medical supplies, chemicals, and other materials. Related terms include waste management, infection control, and environmental sustainability. Biomedical waste is a significant concern in healthcare facilities, as it poses a risk to patients, staff, and the environment if not disposed of properly. For example, biomedical waste can be managed through the use of proper disposal procedures, including segregation, storage, and transportation to licensed facilities.

Building Information Modeling (BIM): refers to the use of digital models to design, construct, and manage healthcare facilities. Related terms include computer-aided design (CAD), facility management, and construction technology. BIM is a powerful tool for healthcare facility design and construction, as it allows for the creation of detailed and accurate digital models of the facility. For example, BIM can be used to simulate patient flow, test design scenarios, and identify potential problems before construction begins.

Capacity Planning: refers to the process of planning and managing the capacity of a healthcare facility to meet patient demand. Related terms include patient flow, bed management, and resource allocation. Capacity planning is an essential consideration in healthcare facility design, as it ensures that the facility has the necessary resources and capacity to meet patient needs. For example, capacity planning can be used to identify areas of high demand, optimize patient flow, and allocate resources effectively.

Certification: refers to the process of verifying that a healthcare facility meets certain standards and requirements. Related terms include accreditation, licensing, and regulatory compliance. Certification is an important consideration in healthcare facility design, as it ensures that the facility meets high standards of quality and safety. For example, certification can be obtained through organizations such as the Joint Commission, which evaluates healthcare facilities based on their compliance with established standards.

Climate Change: refers to the global phenomenon of rising temperatures and changing weather patterns, which can impact healthcare facilities and patient care. Related terms include sustainability, environmental health, and disaster preparedness. Climate change is a significant concern in healthcare facilities, as it poses a risk to patient health and safety, as well as the environment. For example, climate change can be addressed through the use of energy-efficient design and operations, renewable energy sources, and sustainable materials.

Commissioning: refers to the process of testing and verifying that a healthcare facility's systems and equipment are functioning properly. Related terms include quality control, systems integration, and facility management. Commissioning is an essential consideration in healthcare facility design, as it ensures that the facility's systems and equipment are safe, efficient, and effective. For example, commissioning can be used to identify and address problems with the facility's mechanical, electrical, and plumbing systems.

Communication: refers to the effective exchange of information between patients, staff, and other stakeholders in a healthcare facility. Related terms include patient-centered care, teamwork, and technology integration. Communication is an essential consideration in healthcare facility design, as it ensures that patients receive high-quality care and that staff can work effectively together. For example, communication can be improved through the use of digital technologies, such as electronic health records and telemedicine platforms.

Construction Management: refers to the process of planning, coordinating, and controlling the construction of a healthcare facility. Related terms include project management, facility management, and construction technology. Construction management is an essential consideration in healthcare facility design, as it ensures that the facility is built on time, within budget, and to the required quality standards. For example, construction management can be used to coordinate the work of architects, engineers, contractors, and other stakeholders involved in the construction process.

Continuous Quality Improvement (CQI): refers to the ongoing process of evaluating and improving the quality of care in a healthcare facility. Related terms include quality assurance, patient safety, and performance improvement. CQI is an essential consideration in healthcare facility design, as it ensures that the facility is constantly improving and adapting to changing patient needs and standards of care. For example, CQI can be used to identify areas for improvement, develop and implement quality improvement initiatives, and evaluate their effectiveness.

Cost-Benefit Analysis: refers to the process of evaluating the costs and benefits of different design and construction options for a healthcare facility. Related terms include return on investment (ROI), cost-effectiveness, and value engineering. Cost-benefit analysis is an essential consideration in healthcare facility design, as it ensures that the facility is designed and constructed in a way that is fiscally responsible and provides the best possible value for patients and stakeholders. For example, cost-benefit analysis can be used to compare the costs and benefits of different design options, such as the use of natural light versus artificial lighting.

Decontamination: refers to the process of removing or reducing contaminants from surfaces, equipment, and other materials in a healthcare facility. Related terms include infection control, sterilization, and disinfection. Decontamination is an essential consideration in healthcare facility design, as it ensures that patients and staff are protected from the risk of infection and other health hazards. For example, decontamination can be achieved through the use of chemical disinfectants, ultraviolet (UV) light, and other technologies.

Design-Build: refers to the process of integrating design and construction services for a healthcare facility. Related terms include construction management, project delivery, and integrated project delivery (IPD). Design-build is a popular approach to healthcare facility design and construction, as it allows for a single point of contact and responsibility for the project. For example, design-build can be used to streamline the construction process, reduce costs, and improve quality.

Disaster Preparedness: refers to the process of planning and preparing for potential disasters and emergencies in a healthcare facility. Related terms include emergency management, business continuity, and crisis management. Disaster preparedness is an essential consideration in healthcare facility design, as it ensures that the facility is able to respond to and recover from disasters and emergencies. For example, disaster preparedness can be achieved through the development of emergency plans, training of staff, and implementation of backup systems and infrastructure.

Distance Learning: refers to the use of digital technologies to deliver education and training to healthcare professionals remotely. Related terms include online learning, e-learning, and telemedicine. Distance learning is an important consideration in healthcare facility design, as it allows for the delivery of education and training to healthcare professionals in a flexible and convenient manner. For example, distance learning can be used to provide training on new technologies, procedures, and treatments, as well as to support ongoing professional development and continuing education.

Electromagnetic Compatibility (EMC): refers to the ability of electronic devices and systems to function properly in the presence of other electronic devices and systems. Related terms include electromagnetic interference (EMI), radio-frequency interference (RFI), and device integration. EMC is an essential consideration in healthcare facility design, as it ensures that electronic devices and systems do not interfere with each other and compromise patient care. For example, EMC can be achieved through the use of shielding materials, filtering devices, and other technologies that reduce electromagnetic interference.

Emergency Department: refers to the area of a healthcare facility that provides emergency medical care to patients. Related terms include urgent care, trauma center, and emergency management. The emergency department is a critical component of healthcare facility design, as it must be able to provide rapid and effective care to patients in emergency situations. For example, the emergency department can be designed to optimize patient flow, reduce wait times, and improve the quality of care.

Energy Efficiency: refers to the use of energy-efficient design and operations in a healthcare facility to reduce energy consumption and costs. Related terms include sustainability, green building, and energy conservation. Energy efficiency is an essential consideration in healthcare facility design, as it reduces the environmental impact of the facility and helps to control costs. For example, energy efficiency can be achieved through the use of energy-efficient lighting, HVAC systems, and other technologies that reduce energy consumption.

Evidence-Based Design (EBD): refers to the use of research and evidence to inform the design of healthcare facilities. Related terms include evidence-based medicine, patient-centered care, and design research. EBD is an important consideration in healthcare facility design, as it ensures that the facility is designed to promote high-quality patient care and outcomes. For example, EBD can be used to inform the design of patient rooms, operating rooms, and other areas of the facility, as well as to evaluate the effectiveness of different design interventions.

Facility Management: refers to the process of managing and maintaining a healthcare facility to ensure that it is safe, efficient, and effective. Related terms include operations management, maintenance management, and facilities administration. Facility management is an essential consideration in healthcare facility design, as it ensures that the facility is able to support high-quality patient care and outcomes. For example, facility management can be used to coordinate the work of maintenance staff, manage inventory and supplies, and ensure compliance with regulatory requirements.

Flexible Design: refers to the use of flexible design principles and strategies to create healthcare facilities that can adapt to changing patient needs and technologies. Related terms include modular design, adaptable design, and future-proofing. Flexible design is an important consideration in healthcare facility design, as it allows for the creation of facilities that can evolve and change over time. For example, flexible design can be used to create modular patient rooms, operating rooms, and other areas of the facility that can be easily converted or reconfigured to meet changing patient needs.

Functional Programming: refers to the process of defining the functional requirements of a healthcare facility to ensure that it meets the needs of patients, staff, and other stakeholders. Related terms include space planning, functional design, and operational planning. Functional programming is an essential consideration in healthcare facility design, as it ensures that the facility is designed to support high-quality patient care and outcomes. For example, functional programming can be used to identify the functional requirements of different areas of the facility, such as patient rooms, operating rooms, and diagnostic imaging suites.

Green Building: refers to the use of sustainable design and construction practices to create healthcare facilities that are environmentally friendly and energy-efficient. Related terms include sustainable design, energy efficiency, and environmental sustainability. Green building is an important consideration in healthcare facility design, as it reduces the environmental impact of the facility and helps to promote sustainability. For example, green building can be achieved through the use of recycled materials, energy-efficient systems, and other sustainable design and construction practices.

Health Information Technology (HIT): refers to the use of digital technologies to manage and share health information in healthcare facilities. Related terms include electronic health records (EHRs), telemedicine, and health information exchange (HIE). HIT is an essential consideration in healthcare facility design, as it enables the efficient and effective management of health information and promotes high-quality patient care. For example, HIT can be used to streamline clinical workflows, improve patient engagement, and reduce medical errors.

Infection Control: refers to the process of preventing and controlling the spread of infections in healthcare facilities. Related terms include infectious disease control, epidemiology, and patient safety. Infection control is an essential consideration in healthcare facility design, as it ensures that patients and staff are protected from the risk of infection and other health hazards. For example, infection control can be achieved through the use of barrier precautions, sterilization and disinfection, and other technologies that reduce the spread of infections.

Interior Design: refers to the process of designing the interior spaces of a healthcare facility to promote high-quality patient care and outcomes. Related terms include space planning, furniture selection, and wayfinding. Interior design is an important consideration in healthcare facility design, as it creates a healing environment that promotes patient comfort, safety, and well-being. For example, interior design can be used to create calming and soothing environments, improve wayfinding, and promote patient engagement and empowerment.

Lean Design: refers to the use of lean principles and strategies to create healthcare facilities that are efficient, effective, and patient-centered. Related terms include lean construction, lean operations, and lean management. Lean design is an important consideration in healthcare facility design, as it reduces waste, improves efficiency, and promotes high-quality patient care. For example, lean design can be used to streamline patient flow, reduce wait times, and improve the quality of care.

Life Cycle Costing: refers to the process of evaluating the total cost of ownership of a healthcare facility over its entire life cycle. Related terms include cost-benefit analysis, return on investment (ROI), and life cycle assessment. Life cycle costing is an essential consideration in healthcare facility design, as it ensures that the facility is designed and constructed in a way that is fiscally responsible and provides the best possible value for patients and stakeholders. For example, life cycle costing can be used to compare the costs and benefits of different design options, such as the use of durable materials versus less durable materials.

Medical Equipment: refers to the devices and systems used to diagnose, treat, and care for patients in healthcare facilities. Related terms include medical technology, biomedical engineering, and equipment management. Medical equipment is an essential consideration in healthcare facility design, as it must be safe, effective, and easy to use. For example, medical equipment can be designed to interface with other systems and technologies, such as electronic health records and telemedicine platforms.

Modular Design: refers to the use of modular design principles and strategies to create healthcare facilities that are flexible, adaptable, and efficient. Related terms include flexible design, adaptable design, and prefabricated construction. Modular design is an important consideration in healthcare facility design, as it allows for the creation of facilities that can evolve and change over time. For example, modular design can be used to create prefabricated patient rooms, operating rooms, and other areas of the facility that can be easily converted or reconfigured to meet changing patient needs.

Nanotechnology: refers to the use of nanoscale materials and technologies to create innovative products and solutions for healthcare facilities. Related terms include nanomedicine, nanomaterials, and nanotechnology applications. Nanotechnology is an emerging consideration in healthcare facility design, as it has the potential to revolutionize patient care and outcomes. For example, nanotechnology can be used to develop new medical devices, diagnostic tools, and therapeutic agents that are more effective and less invasive.

Noise Reduction: refers to the process of reducing noise levels in healthcare facilities to promote patient comfort, safety, and well-being. Related terms include soundproofing, acoustic design, and noise abatement. Noise reduction is an essential consideration in healthcare facility design, as excessive noise can be a source of stress and discomfort for patients and staff. For example, noise reduction can be achieved through the use of acoustic materials, sound-absorbing technologies, and other design strategies that minimize noise levels.

Operating Room: refers to the area of a healthcare facility where surgical procedures are performed. Related terms include surgical suite, operating suite, and perioperative care. The operating room is a critical component of healthcare facility design, as it must be designed to promote high-quality patient care and outcomes. For example, the operating room can be designed to optimize patient flow, reduce surgical site infections, and improve the quality of care.

Patient-Centered Care: refers to the approach to healthcare that prioritizes the needs and preferences of patients and their families. Related terms include patient-centered design, patient engagement, and patient empowerment. Patient-centered care is an essential consideration in healthcare facility design, as it promotes high-quality patient care and outcomes. For example, patient-centered care can be achieved through the use of patient-centered design principles, such as the creation of calming and soothing environments, and the promotion of patient engagement and empowerment.

Patient Flow: refers to the movement of patients through a healthcare facility, from admission to discharge. Related terms include patient throughput, patient flow management, and patient flow optimization. Patient flow is an essential consideration in healthcare facility design, as it must be efficient, effective, and patient-centered. For example, patient flow can be optimized through the use of lean design principles, such as streamlining patient flow, reducing wait times, and improving the quality of care.

Pharmaceutical Waste: refers to the hazardous waste generated by healthcare facilities, including expired or unused medications, and other pharmaceutical products. Related terms include hazardous waste management, pharmaceutical waste disposal, and environmental sustainability. Pharmaceutical waste is a significant concern in healthcare facilities, as it poses a risk to patients, staff, and the environment if not disposed of properly. For example, pharmaceutical waste can be managed through the use of proper disposal procedures, including segregation, storage, and transportation to licensed facilities.

Preventive Maintenance: refers to the process of preventing equipment and system failures in healthcare facilities through regular maintenance and repair. Related terms include maintenance management, predictive maintenance, and reliability-centered maintenance. Preventive maintenance is an essential consideration in healthcare facility design, as it ensures that equipment and systems are functioning properly and safely. For example, preventive maintenance can be used to schedule regular maintenance and repair activities, such as filter changes, lubrication, and software updates.

Quality Assurance: refers to the process of evaluating and improving the quality of care in healthcare facilities. Related terms include quality improvement, patient safety, and performance improvement. Quality assurance is an essential consideration in healthcare facility design, as it ensures that the facility is designed and constructed to promote high-quality patient care and outcomes. For example, quality assurance can be used to develop and implement quality improvement initiatives, such as reducing medical errors, improving patient satisfaction, and enhancing patient outcomes.

Radiation Safety: refers to the process of protecting patients, staff, and the environment from the risks associated with radiation exposure in healthcare facilities. Related terms include radiation protection, radiation safety protocols, and radiation exposure monitoring. Radiation safety is an essential consideration in healthcare facility design, as it ensures that patients and staff are protected from the risks associated with radiation exposure. For example, radiation safety can be achieved through the use of shielding materials, radiation protection equipment, and other technologies that reduce radiation exposure.

Renewable Energy: refers to the use of renewable energy sources, such as solar, wind, and geothermal energy, to power healthcare facilities. Related terms include sustainable design, energy efficiency, and environmental sustainability. Renewable energy is an emerging consideration in healthcare facility design, as it reduces the environmental impact of the facility and helps to promote sustainability. For example, renewable energy can be used to power healthcare facilities, reduce energy consumption, and lower greenhouse gas emissions.

Risk Management: refers to the process of identifying and mitigating risks in healthcare facilities, including patient safety risks, financial risks, and operational risks. Related terms include risk assessment, risk analysis, and risk mitigation. Risk management is an essential consideration in healthcare facility design, as it ensures that the facility is designed and constructed to minimize risks and promote high-quality patient care and outcomes. For example, risk management can be used to identify and mitigate risks associated with patient falls, medication errors, and surgical site infections.

Space Planning: refers to the process of designing and organizing the physical space of a healthcare facility to promote high-quality patient care and outcomes. Related terms include functional programming, interior design, and wayfinding. Space planning is an essential consideration in healthcare facility design, as it ensures that the facility is designed to support the needs of patients, staff, and other stakeholders. For example, space planning can be used to create calming and soothing environments, improve wayfinding, and promote patient engagement and empowerment.

Sustainability: refers to the ability of a healthcare facility to operate in a way that is environmentally friendly, socially responsible, and economically viable. Related terms include sustainable design, green building, and environmental sustainability. Sustainability is an essential consideration in healthcare facility design, as it reduces the environmental impact of the facility and helps to promote sustainability. For example, sustainability can be achieved through the use of energy-efficient design and operations, renewable energy sources, and sustainable materials.

Telemedicine: refers to the use of digital technologies to deliver medical care remotely, including video conferencing, remote monitoring, and electronic health records. Related terms include telehealth, e-health, and m-health. Telemedicine is an emerging consideration in healthcare facility design, as it enables the delivery of medical care remotely and promotes high-quality patient care and outcomes. For example, telemedicine can be used to provide remote consultations, monitor patient health remotely, and improve patient engagement and empowerment.

Universal Design: refers to the approach to design that prioritizes the needs and preferences of all users, including patients, staff, and visitors with disabilities. Related terms include inclusive design, accessible design, and barrier-free design. Universal design is an essential consideration in healthcare facility design, as it promotes high-quality patient care and outcomes, and ensures that the facility is accessible and usable by all users. For example, universal design can be achieved through the use of accessible design principles, such as the creation of wide doorways, ramps, and elevators.

Value Engineering: refers to the process of analyzing and improving the value of a healthcare facility by evaluating its design, construction, and operations. Related terms include cost-benefit analysis, return on investment (ROI), and value analysis. Value engineering is an essential consideration in healthcare facility design, as it ensures that the facility is designed and constructed to provide the best possible value for patients and stakeholders. For example, value engineering can be used to evaluate the cost and benefits of different design options, such as the use of natural light versus artificial lighting.

Ventilation: refers to the process of providing a healthy and comfortable indoor environment in healthcare facilities through the use of ventilation systems and technologies. Related terms include indoor air quality, air filtration, and ventilation design. Ventilation is an essential consideration in healthcare facility design, as it ensures that the indoor environment is healthy and comfortable for patients, staff, and visitors. For example, ventilation can be achieved through the use of mechanical ventilation systems, natural ventilation strategies, and air filtration technologies that remove pollutants and contaminants from the air.

Water Conservation: refers to the process of reducing water consumption in healthcare facilities to promote environmental sustainability and reduce costs. Related terms include water efficiency, water management, and water conservation strategies. Water conservation is an essential consideration in healthcare facility design, as it reduces the environmental impact of the facility and helps to promote sustainability. For example, water conservation can be achieved through the use of low-flow fixtures, greywater reuse systems, and other water-saving technologies.

Wayfinding: refers to the process of navigating a healthcare facility, including the use of signs, maps, and other visual cues to help patients, staff, and visitors find their way. Related terms include signage, navigation, and orientation. Wayfinding is an essential consideration in healthcare facility design, as it ensures that patients, staff, and visitors can navigate the facility safely and efficiently. For example, wayfinding can be achieved through the use of clear and consistent signage, intuitive navigation systems, and other visual cues that promote orientation and navigation.