STRATEGIES FOR SUSTAINABLE DESIGN

PROF. SHIVA JI  
Dept. of Design and Dept. of Climate Change  
IIT Hyderabad

TYPE OF COURSE : New | Elective | UG/PG  
COURSE DURATION : 12 Weeks (18 Jan’ 21 - 09 Apr’ 21)  
EXAM DATE : 25 Apr 2021

INDUSTRIES APPLICABLE TO : Construction and Manufacturing

COURSE OUTLINE :  
The course discusses sustainability principles and concepts from across various domains. Elaborates on sustainability definitions, aspects, dynamic nature of it, and its application in everyday life. Further, it discusses global efforts from UNFCCC, IPCC, and other agencies for developing context-based solutions and climate change mitigation efforts. Involves field visits, real-life case examples, and assignments. Includes study on building technologies to improve efficiency and response to surroundings. Focusses on basic scientific principles underlying the environmental performance of the built environment and designing for efficacy on EIA/LCA. It elaborates about NBC of India, CNBC, and SA Methods also such as GRIHA, LeNS tools, etc. Overall, it touches on UN SDG and systemic analysis for an easy understanding of assessment for students. The course provides a state of the art study material using the latest research papers, journals, books, and reports, etc.

ABOUT INSTRUCTOR :  
Prof. Shiva Ji is a practicing Architect, Industrial Designer and Assistant Professor in Department of Design and Department of Climate Change at IIT Hyderabad. He has B.Arch, M.Des, MBA and PhD in sustainability assessment methods in built environments from IIT Guwahati. He has over 13 years of cumulative experience in industry and academics. He has accomplished several projects in field and has over 39 designs launched in the market. His research areas include design for sustainability, sustainability assessment, virtual & augmented reality, architectural heritage reconstruction using technology. He is involved with many research projects using state of the art technology in domains of architecture and design. He is a member with several national and International organizations.

COURSE PLAN :  
Week 1: Definitions and Perspectives on Sustainability in Industrial Design and Built Environments  
Week 2: ESE Aspects of Sustainability and Climate Change Mitigation  
Week 3: Current National and International Scenario of SD and Dependence on Energy  
Week 4: Impact of Pollutions and Design Processes with Alternative Solutions for Health of Ecosystem  
Week 5: Environmental Impact Assessment and Lifecycle Analysis  
Week 6: Policy, Growth, Development and 3R’s for Consumption  
Week 7: NBC, ECBC, and SA Methods such as GRIHA  
Week 8: UN SDG and System Design tools such as SPSS, MSDS by LeNS  
Week 10: Design for Sustainability and Nature as Inspiration  
Week 11: International Conventions, Laws and Emerging Technologies for SD  
Week 12: SD Case Studies and Summary