



PRINCIPLES AND APPLICATIONS OF BUILDING SCIENCE

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INTENDED AUDIENCE : UG students of Engineering and Architecture; Design and Construction industry professionals

INDUSTRIES APPLICABLE TO : Design and Construction Firms, Architecture Firms, Construction companies It can be used as a part of induction course for recruits in design and construction firms.

COURSE OUTLINE :

Design and construction professionals require a command on fundamental principles of building physics in order to ensure functional efficiency in the built environments. The course provides a one-stop solution to design/construction industry professionals and students of architecture and engineering disciplines to understand these principles and learn their practical applications. The course comprises of 10 modules which cover climate responsive design of buildings, thermal comfort and energy efficiency, building acoustics and noise control and visual quality and day lighting. The participants will engage in a series of experiential learning modules - involving basic tutorials, animated examples, applied case studies and do-it-yourself exercises.

ABOUT INSTRUCTOR :

Prof. E. Rajasekar is an assistant professor at the Department of Architecture and Planning, IIT Roorkee, India. He is an Architect with post-graduation in Building Technology and Construction Management and PhD on Thermal comfort and building performance from IIT Madras. He is a Shastri Indo-Canadian Institute Doctoral Fellow. He specializes in the field of building performance assessment focused on thermal, acoustics and lighting parameters. He carries a rich research and industry experience in this field and has published more than 20 technical papers in peer-reviewed journals and conferences. He is a USGBC LEED accredited professional and a GRIHA certified professional.

COURSE PLAN :

Week 1: Solar geometry, climate responsive building design, thermal comfort

Week 2: Bio climatic design, building envelop, glazing systems, energy efficiency

Week 3: Fundamentals of building acoustics, Quality indicators, Acoustic materials, Noise control

Week 4: Visual quality in built environment, Effective day lighting design, Integrated design