Analysis and Design of Structures in Fire

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Overview

Structural fire safety is the upcoming generation in the development of resilient built environment. The civil engineering professional has been developing from the traditional prescriptive design approach for fire safety towards performance based design approach. Analysis and design based on Performance based approach offers better level of fire safety for individual structural components. Also, it ensures the overall structural safety. It may also help to reduce the cost of fire protection. Significant research has been conducted in this area in the last couple of decades in the world as well as India. However, the state of art and practice has fallen behind in taking advantage of the latest research. The objective of this course is to introduce engineering professionals to the challenges of structural fire safety and familiarize them with fundamental concepts analysis and design of engineering tools. Special attention will be paid to the latest developments so that more people are motivated to conduct research in the area of structural fire safety.

Modules	Module 1: Importance of Fire Safety & Effect of Fire on Materials and Structures, Module 2: Fire Safety Objectives, Fire resistance & Case Study, Module 3: Flashover Fires & Time-Temperature Curves used in Structural Design, Module 4: Evaluation of Fire Resistance, Standard Fire Tests & Calculation Methods, Module 5: Behaviour of Reinforced concrete Member/Structures in Fire, Module 6: Behaviour of Steel and Composite Structures**:** **9 October - 13 October , 2017** **Number of participants for the course will be limited to fifty.**
You Should Attend If…	• Faculty from an academic Institution or • Student (B.Tech./M.Tech./PhD) • Professionals in Civil/ Mechanical/ Architectural Engineering, • Scientist from research organization/consultants, • Fire safety Engineer/Officer
Fees	The participation fees for taking the course is as follows: Participants from abroad: US $500 Industry /Govt. Dept./Consultancy firms : Rs. 5000/- Academic/Research Organisations: Rs. 4000/- Students/ Research Schalor: Rs. 1000/- The above fee include all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free internet facility. The participants will be provided with accommodation on payment basis.

The Faculty

Dr. Venkatesh Kodur is a Professor and Chair person in the department of Civil & Environmental Engineering and also serves as Director of the Center on Structural Fire Safety and Diagnostics at the Michigan State University (MSU). His research has focused on the experimental behavior and analytical modeling of structural systems under extreme fire conditions, Constitutive modelling of material properties at elevated temperatures, developing guidelines for fire resistance design of structural systems, Evaluating fire performance of high performing materials, Performance based fire safety design, Failure investigations. He has published over 300 peer-reviewed papers in international journals and conferences in structural, material and fire resistance areas. He is serving as Associate Editor of Journal of Structural Engineering and Journal of Structural Fire Engineering, Chairman of ASCE Standards Committee on Fire Resistance, Chairman of ACI-TMS Committee 216 on Fire Protection and a member of EPSRC (UK) College of Reviewers. Dr. Kodur was part of the FEMA/ASCE Building Performance Assessment Team who studied the collapse of WTC buildings as a result of September 11 incidents.

Dr. Virendra Kumar is an Associate Professor in the Department of Civil Engineering, NIT Jamshedpur. His research interest includes fire resistance of reinforced concrete structures, structural dynamics, earthquake resistant structures, structural health monitoring of structures, concrete technology, development of new cementitious materials, durability of structures. He has 19 years of academic experience. He has published many research papers in peer reviewed journals and national and international conferences.

Dr. B. K. Prasad is an Associate Professor in the Department of Civil Engineering, NIT Jamshedpur. His research interest is Polymer modified concrete, fibre reinforced concrete, structural behaviour of polymer modified concrete under cyclic loading and concrete technology. He has published many research papers in peer reviewed journals and national and international conferences. He has 21 years of teaching experience.

Course Co-ordinator

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