

Engineering Human Response in Fire: Principles, Models and Applications

Course Description

This two-day course addresses human response in fire and the tools that are available to represent this response within the engineering process. The course outlines the theoretical and empirical basis of our current understanding, making frequent references to actual incidents as well as engineering applications. This is followed by a broad discussion of the tools available to represent human response--from engineering calculations to computational simulation models. The discussion of the underlying assumptions and techniques of these models is supported by demonstrations and case studies. In all instances, the strengths and limitations of the theory, the data available, and the tools employed are clearly outlined, providing the audience with a realistic expectation of what is available, what insights can be gained and what the implications of having or not having these insights might be. The subject matter (i.e., human response) and the modeling approaches are presented together allowing the audience to assess, select, and employ such tools in a more informed and integrated manner.

Learning Objectives

Upon completion of this course participants will be able to:

- Demonstrate a clear understanding of the subject matter to assist with their theory development and data collection.
- Explain which factors are need to be included in calculations, and the data that is available to support these factors.
- Identify the impact that products may have upon an actual population, why this impact is important, and what tools can be used to demonstrate this impact.
- Summarize how designers will have a greater insight into the effectiveness of their systems, how they might be enhanced and how the tools available can help compare performance and demonstrate it to third parties.
- State how fire departments will have a clear picture of evacuee performance for training, education, and emergency response applications.
- Discuss how safety managers can identify the impact of structural designs and procedural measures upon the occupant population in their attempts to reach safety.

Prerequisite

Understanding of human response in fire

Who will benefit: Experience Level- Intermediate

FPEs, Architectural, civil, structural, mechanical and electrical engineers engaged in the design of buildings and related infrastructure.

Course assessment

Participants will be assessed via a written test. A passing score of 70% will be required to attain a Certificate of Completion

Professional Development Hours

Upon completion participants qualify for 14 PDHs and 1.4 CEUs, for attending. A Certificate of Attendance will be awarded.