


UNIVERSITY OF  
**MARYLAND**  
 Department of Fire Protection Engineering



# The Effect of Fires on People, Property and the Environment

Jim Milke, Ph.D., P.E., Professor and Chair

A. JAMES CLARK SCHOOL of ENGINEERING • UNIVERSITY of MARYLAND

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**Learning Outcomes:**



- Describe the development of fires in buildings
- Describe the role(s) of a broad array of fire protection systems in mitigating damage from fire
- Describe the scope of fire protection engineering
- Describe how people are affected by fire and their patterns of behavior in response to fire
- Describe how fire affects property and the environment, including thermally- and non-thermally induced damage.
- Identify principal factors that affect decisions on what level of fire safety should be included in buildings as well as how to accomplish those levels.

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**Course Outline**



Week	Topic	Lecturer
1	Introduction to fire behavior	J. Milke (UMD)
2	What is Fire Protection Engineering?	C. Jelenewicz (Engineering Program Manager, SFPE)
3	Fire safety systems	J. Milke (UMD)
4	The effect of fire on people	E. Kuligowski (Fire Protection Engineer, Sociologist, NIST)
5	The effect of fire on property and the environment	J. Milke (UMD)
6	Implementing fire safety designs	E. Rosenbaum (Vice President, Hughes Associates)

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## Course Requirements



- Short discussion papers will be assigned for each weekly module. The topics for discussion will be included in each presentation. The intent of each discussion paper is to permit students to apply material learned in each module and conduct a little research to further explore the topic. At least 1 outside reference should be cited in each paper.

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## Fire Protection Engineering



- Fire Protection Engineers use science and technology to make our world safe from fire
  - People
  - Property and contents
  - Environment
  - Economy



Dietz and Watson Warehouse, Delran, NJ  
Sept. 1, 2013

MGM Grand, Las Vegas, NV  
Nov 20, 1980

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## Fires in Our World





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## Fire Protection Engineering at UMD



- Unique!
  - only ABET accredited FPE undergraduate program in the U.S.
  - 1 of 3 FPE programs in U.S. offering graduate degrees

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## FPE Employers





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## Summary



- Fire Protection Engineers use science and technology to make our world safe from fire
- The University of Maryland Fire Protection Engineering program is one-of-a-kind

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## Overview of Week 1 Lecture



- Flames
- Fire products
- Compartment fires



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