Fire Safety Program - ME 770 Fire Risk Analysis

Course Objectives

This course provides broad treatment of the principles, as well as case studies, related to engineering decision-making, risk and hazard identification, scenario development and risk management. Basic concepts in probability and reliability, the analysis and interpretation of risk data, hazard identification and consequence analysis, risk-based modeling and economics of fire protection are covered.

The necessary mathematical concepts are developed and available software tools introduced in the context of performance-based design and other fire safety engineering applications.

Course Outline

- Introduction – what is fire risk analysis and why is it of interest?
- Research project and methods
- Decision Making
- Probability and Rate
- Parameter estimation and probabilistic modelling
- Software Introduction
- Fire Scenarios, Hazard Identification and Event Trees
- Consequence Estimation
- Monte Carlo Simulations
- Influence Diagrams
- Performance Based Analysis
- DTU Fire Risk Projects
- Probability and Uncertainty
- Pre-posterior Decision Analysis
- An Introduction to LQI
- Examples of Decision-making
- Class Summary and Discussion
- Student Project Presentations and Case Studies in Fire Risk Assessment

Recommended References

Course notes and reference list supplied during the course.

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Contact Us

For information on Fire Safety Group courses, registration, and admissions:
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