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.

Contact Us

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

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