

## Master Syllabus

### FST 2260 - Advanced Concepts in Structural Fire Protection

**Division:** Business and Public Services

**Department:** Fire Science Technology

**Credit Hour Total:** 3.0

**Lecture Hrs:** 3.0

**Date Revised:** February 2014

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#### Course Description:

This course examines the principles and concepts of structural fire protection involving both fire resistance and the behavior (thermal strain, stress and fatigue) of structural components during fire conditions.

#### General Education Outcomes:

- ▣ Critical Thinking/Problem Solving
- ▣ Information Literacy

#### Course Outcomes:

##### Resistance ratings

Develop and calculate approved fire resistance ratings employing established principles and models.

**Assessment Method:** Simulations

**Performance Criteria:** Using supplied photographs or inspection data must develop and calculate fire resistance ratings with at least 70% accuracy.

##### Design objectives

Describe the design objectives of fire resistance properties of assemblies including walls, floors, beams, columns, fire barriers and penetrations.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Correctly answer at least 70% of exam questions

##### Structural components

Identify the principle structural components and evaluate the five types of building construction, addressing special hazards and tactical considerations.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Correctly answer at least 70% of exam questions

##### Protection systems

Evaluate the fire protection systems (e.g. spray on coatings, flame shields, encasements, barriers) for structural components in accordance with fire industry standards.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Correctly answer at least 70% of exam questions

#### Outline:

Principles of fire protection  
Principles of fire resistance  
Fire behavior vs. building construction  
High rise construction  
Structural components and fire