Sinclair Community College
444 E. Third St.
Dayton, OH 45402

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

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